

shy disposition, it would require much time and infinite patience to obtain accurate information on the subject.

One is tempted to assume that along with the acquisition of the physical characteristics of maleness, such as superior size, more conspicuous plumage, and complicated trachea, the female of this species has also acquired the ardour and pugnacity of the male, and that the courter has now become the courted.

It would certainly not be surprising to find that this is actually the case, for if the loss of the maternal instinct be a step taken upon the road which leads to masculinity in all things—and it surely is that,—then the females of *Rostratula capensis* have not much further to travel along that road.

I have omitted to describe the plumage of the sexes of *Rostratula capensis* at length, as such a description may be found in many of the ordinary text-books.

XXXI.—*Notes on the Vultures found in the neighbourhood of Simla and adjacent ranges of the Himalayas.* By P. T. L. DODSWORTH, F.Z.S., M.B.O.U.

ORNITHOLOGY has been studied for so many years in India, that it seems somewhat absurd to have to admit at the present day, that the exact limits and distribution of such large birds as the Vultures in this country have not yet been fixed with precision. Indeed, to go a step further, recent enquiries* have revealed the startling fact that systematists are not yet agreed as to whether one of the common Indian species of Vultures is identical with, or distinct from, the European Griffon! The bird referred to is the common Bay Vulture—the *Gyps fulvescens* of Hume. Dr. Sharpe considered this bird a distinct species. Blanford, on the other hand, treats *Gyps fulvescens* as synonymous

* Journal Bombay Natural History Society, vol. xxi. 1912, pp. 1331, 1332.

with *Gyps fulvus* of Gmelin, and lumps the two birds together on the ground that they are identical.

The question which therefore now arises is this. Are Ornithologists in India going to allow this doubtful state of affairs in regard to such large birds as Vultures to continue any longer?

It is true that Vultures in the flesh are by no means pleasant creatures to handle, and that their skinning is a frightfully dirty job; but the difficulty can be got over to a large extent by shooting them in the early part of the day, before they have gorged themselves, and when their crops are practically empty, and then preparing them for specimens. What is really the most trying part of the business is the sexing of these foul-feeders, especially on a hot summer day, and it is then that the true mettle of the naturalist is tested. For purposes of comparison and distribution, however, it is quite immaterial whether a particular specimen is a male or a female, and the sexing may therefore conveniently be dispensed with. What is actually wanted, for the purpose in view, is well prepared skins of fully *adult* birds from all parts of India, with complete data as to locality, etc. For unless a large series of specimens is forthcoming, it is obviously impossible to generalise correctly.

For some time past my friend Mr. Alexander Jones and myself have been making observations with regard to the various species of Vultures which are to be found in the hills here, and on comparing notes the other day we found that we had arrived at almost identical conclusions. As our observations may be of some use in helping to clear up a few of the doubtful points referred to above, we have been induced to publish them, and trust that they will also encourage other Ornithologists in India to record their experiences.

1. *Vultur monachus* Linnaeus. The Cinereous Vulture.

Blanford, Fauna Brit. India, Birds, No. 1190.

This bird is a decidedly rare species in these parts, and, during the course of observations extending over many

years, we only remember seeing it on three occasions. Once at Simla (elevation 7000 feet) in December; then again a single bird in February about 25 miles south of Simla, at an altitude of 5000 feet; and, lastly, a solitary bird, in March, at Kandlu, near Bilaspur, at about 2500 feet.

This Vulture is said to be resident in the Himalayas, and Hume was of opinion ('Rough Notes,' p. 1) that it breeds in these mountains, west of the River Ganges, and thought that nests were likely to be found anywhere in precipitous places, or on large trees in the sub-Himalayas. Bearing in mind the remarks of this great Ornithologist, we made an exhaustive search last winter for eggs over large tracts of these hills, but without success. Not a single nest was seen anywhere.

For the only egg which we possess we are indebted to the generosity of Lt.-Col. H. Delmé-Radcliffe, who took it on the 5th of April last, on the Zarghun Mountain (10,500 feet) in Baluchistan, shooting the old bird off the nest. We understand that Lt.-Col. Delmé-Radcliffe has sent a separate account about the taking of this egg to the 'Journal of the Bombay Natural History Society,' and shall therefore confine ourselves to mentioning only the following facts connected with the specimen:—

In shape the egg is a broad oval, pointed towards one end. The texture is coarse, and there are some white pimply lumps on the large end. The lining is a pale yellowish green. The ground-colour is white, and it is smudged and speckled, chiefly towards the small end, with dark red-brown. It measures 3·5" by 2·75".

Blanford states that "*in India* this bird is resident in *Afghanistan*, etc." This statement is not very clear as it is geographically inaccurate, but it is apparently based on the remark made by Barnes in volume ix. of 'Stray Feathers,' page 214, to the effect that *V. monachus* is found in the neighbourhood of Chaman, and nests on the Khojak. As these tracts have now been included in British India, under the Indo-Afghan Boundary Settlement of 1893-1894, and as this Vulture has recently been found breeding in Baluchistan,

we take the opportunity of pointing out that in a future edition of the 'Fauna' the sentence "in India this bird is resident in *Afghanistan*, etc." should be corrected, and should run "in India this bird is resident in *Baluchistan*, etc."

2. *Otogyys calvus* (Scopoli). The Black Vulture.

Blanford, Fauna Brit. India, Birds, No. 1191.

This Vulture is fairly common at Simla and in the lower hills. It is to be seen throughout the year. It ranges as high as 8,000 feet in the temperate region of the Himalayas. We have seen it gyrating over lofty peaks here in mid-winter. It generally keeps in pairs, but it is by no means unusual to see from four to six birds together.

We have never yet found a nest of this bird in the hills here, but have not the slightest doubt that it breeds during March and early part of April in the subtropical portions of the Himalayas from about 1000 feet downwards (see, in this connection, Kelham in 'Ibis,' July 1909, pp. 417, 418).

Hume thought that these Vultures paired in the air only, but we are unable to agree with him in this respect, as we remember having seen them some years ago *in copula* on trees.

3. *Gyps fulvus* (Gmelin). The Griffon.

Blanford, Fauna Brit. India, Birds, No. 1192.

In the 'Journal of the Bombay Natural History Society,' volume xxi. 1912, pp. 1331, 1332, we made an enquiry as to whether this species had ever been observed in the Himalayan districts of the Punjab, but up to now have received no replies. We think that, in spite of what Blanford says in the 'Fauna,' it may be taken as fairly certain that it does not occur in these parts. We have never seen it here; and it apparently does not occur in Chamba (*cf.* Marshall, 'Ibis,' 1884, p. 404).

It seems, however, only right to mention that Major H. A. Magrath, who is one of our keenest observers, and who

has had an extensive knowledge of the N.W. Himalayas, remarks *in epist.*:—" *Gyps fulvus* is, I believe, fairly common in the lower ranges of the western Himalayas, though I cannot say I have noticed it at Simla, but I imagine it must occur there. The common Vulture round Muree and in the Vale of Kashmir I have always put down as this bird. *Gyps himalayensis* is very common of course higher up. *Gyps tenuirostris* I do not know, and have never seen. But the Vulturidae, I must confess, are not a group I have ever interested myself much in."

In 'Stray Feathers,' volume v. p. 123, which we had overlooked in making the above enquiry, we find that Hume has already recorded that his *Gyps fulvescens* (= *Gyps fulvus*) "never occurs in the Himalayas."

4. *Gyps himalayensis* Hume. The Himalayan Griffon.

Blanford, Fauna Brit. India, Birds, No. 1193.

This magnificent Vulture, first described by Hume—identical with *Gyps nivicola* of Severtzov, the Snow-Vulture of Turkestan and the Mongolian frontiers—abounds throughout the north-west Himalayas, and is a common Bird of Prey in the neighbourhood of all the sanatoria along these ranges. It generally keeps above altitudes of 3000–4000 feet, and only descends to lower elevations when compelled to do so in search of food. Once the appetite has been satisfied, it immediately returns to its original haunts. It is *par excellence* the Vulture of the mountains, and seems equally at home in the subtropical region of the Himalayas as in the desolate and inhospitable regions embraced by the Tibetan or Alpine zone.

It roosts in large colonies on precipitous ridges and cliffs, though it is not unusual to see a solitary bird occasionally perched on the summit of some gigantic tree. The roosting-sites are used year after year, and can easily be located from long distances by their white appearance, caused by the droppings of the birds.

It does not venture forth in quest of its prey till long after the sun has risen. On quitting its nocturnal haunts,

it flies at first low along the mountain-side, and then rapidly soaring upwards in wide gyrations is soon lost to view in the azure of the sky. One has only to take up a station on some prominent peak during the middle of the day here, and in a short space of time several of these huge birds may be seen, as mere specks, sweeping the heavens at immense heights in all directions—now from north to south, now from east to west. But these are only the birds that can actually be seen. How many more must there be among the clouds that are beyond the range of human vision? Whence do they come? Whither do they go? Are all these movements aimless or without a definite purpose? To the casual observer they may doubtless appear so, but not to the naturalist, who knows well from long experience that each and every bird is ever watchful, ever on the alert. Not a single movement on the part of the lowest ever escapes his companions soaring above him. Let only one of these make a swoop towards the earth, or descend on some carrion which lies in the valley below, and the air soon resounds with the downward rush and vibrations of mighty pinions.

Times out of number we have satisfied ourselves that the Vultures soaring in the lowest stratum of the atmosphere are guided in the first instance to their quarry *not by scent*—for if it is at all concealed, they have considerable difficulty in finding it—but by the clamourings and movements of Jungle-Crows (*Corvus macrorhynchus*), which seem to have an extraordinary faculty for locating any carrion.

We have stood and watched, from close quarters, large flocks of these Vultures, sometimes as many as 60 to 80 birds, struggling and squabbling over a single carcass, and must confess that these exhibitions have always struck us as being at once the most revolting and the most instructive of sights to behold. The entrails and liver of the defunct animal are generally the first which are disposed of, then follow the fleshy parts, and the rapidity with which these disappear is truly astonishing. The bones and skin are the only parts which escape attention.

The duration of one of these orgies is seldom prolonged

beyond half an hour, but this short space of time amply suffices for the entire disposal of the body of a huge bullock or buffalo. After their repast the gorged Vultures lazily flap away and settle on the nearest cliffs, there to digest their food, and to preen their feathers leisurely and clean themselves. It has been generally supposed that these birds never indulge in a wash, but this is an altogether erroneous idea, as we have frequently come across large numbers of them bathing and cleaning their blood-stained feathers in buffalo-tanks and in mountain-streams.

A question we have often asked ourselves is, "Whether these huge Birds of Prey are able to procure food daily?" We have shot them at all times of the day and late in the evenings, when they have been returning to their roosting-haunts, but have generally found that their crops were quite empty. Judging from these cases, and from various enquiries which we have made, we are convinced that the Vultures, in these parts at any rate, are seldom able to procure food daily, and only have a hearty meal perhaps once or twice in a week—never more often.

As noticed by Hume, this Vulture delights to breed on the ledges of precipitous cliffs. We have never yet seen a nest on a tree. The largest number of nests which we have found in a single locality was six, but each nest was separated from the other by at least 50 feet. It is, however, by no means unusual to find a solitary nest on a cliff.

It has been remarked that the nests of this bird vary much in character, and that sometimes there is no nest at all, but we are unable to endorse the latter part of this statement. In all cases we have invariably found the egg reposing on some kind of a nest; usually the structure is a huge irregular platform, composed of thick sticks and twigs, with a central depression, which is lined with grass, feathers, etc. The nests varied from two to three feet in diameter, and the materials composing them weighed from about 50 to 150 lbs.

So far as our observations go, it would seem that new nests are always built each year.

The nesting-materials are carried in the beak, and we have proved that both birds share in the labours of incubation.

The earliest date on which we have taken eggs is the 14th of January, and the latest the 18th of March. Out of 12 specimens we find that 9 were taken in January, 2 in February, and 1 in March.

In length the eggs varied from 3.52" to 4.17", and in breadth from 2.7" to 2.92"; the average of 12 specimens is 3.81" x 2.77".

As observed by Hume, the shape of the eggs is very variable, but the majority of the specimens are "rather long pointed ovals." The remainder are broad ovals, slightly pointed towards the small end.

Hume does not notice the fact that some of the eggs exhibit white pimply lumps on their surfaces, generally towards the large end.

The proportion of marked to unmarked eggs in our specimens is about equal, but the heavily marked eggs are much rarer.

These Vultures do not soil their eggs during incubation like *P. bengalensis*.

We have never yet seen an immature bird of this species breeding; all the nests, without a single exception, which have come under our notice have invariably been tenanted by adult birds.

In all instances the parents were got off their nests without any difficulty; but in one case only the old bird refused to budge, and attempted to bite when anyone went close to her. She had eventually to be poked off the nest with a stick.

These Vultures pair on cliffs, and while *in copula* make an extraordinary hoarse roaring noise, which can be heard from a great distance.

In conclusion, it may be worth mentioning that though 50 to 70 of these Vultures may affect a particular range of cliffs, not more than five to six pairs at the utmost will ever be found breeding there. The rest of the birds are always

to be seen on the same cliffs, but what happens to them? How is it that they do not also breed? We have noticed this somewhat singular state of affairs to prevail among other birds (though do not remember ever having seen it discussed anywhere), and have found that a large proportion in each group do not breed at all during the year, while others of the same species are actively nesting. Our ignorance in regard to the real nature of the causes which act as a check to the increase of organisms is still most profound, but it seems to us that, if our observations in this respect are correct, and are found hereafter to be more or less of universal application, some additional light might, perhaps, be thrown on the general question of the bar to the multiplication of species.

5. *Gyps tenuirostris* Hodgson. The Himalayan Long-billed Vulture.

Blanford, Fauna Brit. India, Birds, No. 1195.

Blanford gives the distribution of this species as "throughout the lower Himalayas, and near their base as far west as Kashmir, etc.," but we have never seen this bird in the lower hills here. According to Ward (Journ. Bomb. Nat. Hist. Soc. vol. xvii. 1907, p. 728) it is to be found "on the outer slopes of the Punjab range," but further observations appear necessary.

6. *Pseudogyps bengalensis* (Gmelin). Indian White-backed Vulture.

Blanford, Fauna Brit. India, Birds, No. 1196.

The Indian White-backed Vulture is common in these regions from about the beginning of April to about the end of October or middle of November, and at such times ascends the hills to altitudes of from 7500 to 8000 feet. During the winter months it moves down to lower elevations (4000 feet). It is therefore subject to a partial migration.

It associates freely with the Himalayan Griffons, and we have seen both species feeding simultaneously off the same carcass.

We found this Vulture breeding freely, during December and January, in colonies on *Bur* and *Peepul* trees (*Ficus bengalensis* and *Ficus religiosa*), close to Koti Station, on the Simla-Kalka Railway, at an elevation of 3600 feet.

We are in a position to corroborate the following points:—

- (a) These Vultures pair on trees, and while *in copula* utter the hoarse roar noticed by Jerdon (Hume, 'Rough Notes,' p. 31).
- (b) Both birds sit on the eggs. When the mate arrives, the sitting bird emits a low squeak like a young one, shakes its wings, and flies off, its place in the nest being immediately taken by the new arrival.
- (c) We found that Hume's rule (Hume, 'Rough Notes,' p. 27) that the period the egg has lain in the nest can be foretold by the condition of the lining leaves generally holds good—so far we have only met with one exception.

We do not remember ever having seen more than four nests on a single tree, and have frequently found solitary nests belonging to *old* birds.

We have never found more than one egg in a nest. The proportion of marked to unmarked eggs works out, in our specimens, to about 1 to 2. Hume states that it is about 1 to 5.

The eggs measure from $3.8'' \times 2.0''$ to $2.93'' \times 2.28''$, and 36 specimens average $3.32'' \times 2.53''$.

In all cases the old birds were got off their nests without any difficulty, but in one instance we had to poke the parent with a stick and regularly drive her off a hard-set egg, which she was covering at the time.

Once the nests are robbed, we found that the birds did not lay in them again, but they hung about in the vicinity. On two occasions we noticed that the nests which we had previously robbed were pulled to bits by the old birds; in

in this connection we would invite a reference to pages 28, 29 of Hume's 'Rough Notes.'

Another point worth mentioning is that, during the middle of the day, we noticed that some of the old birds left their nests, which contained hard-set eggs, and sat for a long time by the sides of the structures. The only conclusion we can arrive at in regard to this singular proceeding on the part of the birds is that they were apparently aware that the heat from the sun at certain hours was sufficient for purposes of incubation.

7. *Neopharon giuginianus* (Latham). The Smaller White Scavenger-Vulture.

Blanford, Fauna Brit. India, Birds, No. 1197.

This is another species which is subject to a partial migration in the hills here. It is common at Simla (7000 feet) from March to November, and during the summer ascends as high as 8000-8500 feet. In the winter it moves down to the low hills.

This Vulture breeds in the Himalayas as high as 6000 feet, and we have taken several eggs in the neighbourhood of Simla. It lays here during the latter half of April. The eggs are invariably two in number. The average measurements of 8 Himalayan specimens are $2\cdot57'' \times 1\cdot96''$.

The nests are always placed on the ledges of cliffs, and the same nest seems to be frequented year after year.

These Vultures pair on the ground. We have never seen an immature of this species breeding.

We have shot these Vultures in various stages of plumage, but have not yet been able to fix definitely the exact period which elapses before a nestling attains the adult plumage. So far as our observations go, we are inclined to think that it takes fully three years.

The Egyptian Vulture—*Neophron percnopterus* (Linnæus)—does not occur in these parts.